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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,202	04/09/2001	Jia-Horng Shieh	ACR0025-US	3672

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EXAMINER
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ABRAHAM, ESAW T

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/828,202

Applicant(s)

SHIEH, JIA-HORNG

Examiner

Esaw T. Abraham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.  
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 21-33 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 13-20 is/are allowed.  
6) ☒ Claim(s) 1-12 and 21-33 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 01/21/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**Final office action**

**Response to the applicant's amendments**

Amendment to the previously Allowed claims 13, 15, 17-20 are accepted.

Applicants' argument/amendments with respect to amended claims 1-12 and added claims 21-33 filed on 01/21/05 have been fully considered but are not persuasive. The examiner would like to point out that this action is made final (MPEP 706.07a).

**DETAILED ACTION**

1. Claims **1-12 and 21-33** are presented for examination.
2. Claims **13-20** are allowed in the previous office action.

**Drawings**

3. The corrected drawings (1-3) were received on 01/21/05. These drawings are accepted.

***Claim Rejections - 35 USC § 112, 1<sup>st</sup> paragraph***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-12 and 21-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time application was filed, had possession of the claimed invention.

Nowhere in the specification does the applicant teach, “ECC (error correction code) block comprises a scrambled data” nor it clear what the Applicant intends by the language (the Applicant quoted phrases of claims in Amendment after the second non-final office action finds support in the Applicant’s disclosure). The examiner would like to point out that the applicant does not teach or support “ECC block comprises a scrambled data as in the independent claims (1, 5, 7 and 11) (for example, according to the Applicant’s support for the claims on pages 7, 8, and 10 of the application’s disclosure, the disclosure describes only “de-scrambling the main data ”).

Hence the Applicant has introduced **New Matter**, which was not described in the specification in such a way as to application was filed, had possession of the claimed invention.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. Claims 1-12 and 21-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants' admitted prior art (hereinafter admitted prior art) in view of Iwasa (U.S. PN: 6,470,473).

As per claims 1, 7-9, 21-23 and 27-30, the applicant's submitted prior art's figure 1 disclosed a conventional decoding system in a DVD storage system includes, a demodulator (see element 102) reads data and the data stored in the disk (see element 100) whereby the demodulator generates an ECC block (see element 107) and transmits to a data buffer (see element 106) wherein the ECC block comprises main data, PI (parity inner code), PO (parity outer code). Further, the applicant's submitted prior art teach that the main data append with PO to form an outer code RS (Reed-Solomon) and the RS append with PO and PI to form an inner code RS (Reed-Solomon), an ECC decoder reads the ECC block form the data buffer to form the error correction decoding along the PI direction and the PO direction of the ECC block, and a de-scrambling and EDC check reads corrected data stored in the data buffer for de-scrambling the main data and checking errors (see the applicants' disclosure page 1, lines 14-29). Furthermore, the applicants' submitted prior art teaches that when a host needs the main data an ATAPI (see element 118) reads the main data in the data buffer (see the applicants' disclosure page 1, lines 14-29). The applicants' submitted prior art did not **explicitly** teach a syndrome generator for generating PI syndrome and PO syndrome and a memory coupled to the syndrome generator for storing PO syndrome. **However**, Iwasa in an analogous art disclose a DVD data decoding processing system (see figure 3, reference number 30) includes a DVD reproducing unit (see element 32) and a buffer memory (see element 34) whereby the DVD reproducing unit includes a demodulating unit (see element 36) coupled to a PI syndrome generating unit (see element 38),

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an error correcting unit (see element 40), a PI syndrome storing memory (see element 48), a buffer memory (see element 42) having a memory capacity corresponding to a few lines, a PO syndrome generating unit (see element 44), a de-scrambling/EDC calculating part (see element 46), a PO syndrome storing memory (see element 50), an EDC calculation result storing memory (see element 52) and an error correcting part (see element 54), which are coupled as shown.

**Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to combine (incorporate) the teachings of the applicant's prior art with the PI/PO syndrome generators including the memory (PO syndrome storing memory) for storing and calculating PO syndromes. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because it would be relatively high reliable in operation that results facilitating utilization of flexible and efficient memory configurations.

As per claims **2 and 3**, the admitted prior art in view of Iwasa teach all the subject matter claimed including Iwasa in figure 3 teach an ECC decoder or ECC unit (see fig. 3, element 40) connected to PI syndrome storing memory (see element 48) and PO syndrome storing memory (see element 50) to store PI and PO syndromes.

As per claims **4 and 10**, the admitted prior art in view of Iwasa teach all the subject matter claimed including a demodulator (see fig. 3, element 36) receives data read out from a disk (see element 14) to demodulate the received data and to develop the modulated data (convert codes to symbols) in the buffer memory (see col. 1, lines 44-53).

As per claims **5, 11, 24-25 and 31-33**, the applicant's submitted prior art's figure 1 disclosed a conventional decoding system in a DVD storage system, a demodulator (see element

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102) reads data and the data are stored in the disk (see element 100) whereby the demodulator generates an ECC block (see element 107) and transmits to a data buffer (see element 106) wherein the ECC block comprises main data, PI (parity inner code), PO (parity outer code). Further, the applicant's submitted prior art teach that the main data append with PO to form an outer code RS (Reed-Solomon) and the RS append with PO and PI to form an inner code RS (Reed-Solomon), an ECC decoder reads the ECC block from the data buffer to form the error correction decoding along the PI direction and the PO direction of the ECC block, and a de-scrambling and EDC check reads corrected data stored in the data buffer for de-scrambling the main data and checking errors (see the applicants' disclosure page 1, lines 14-29). Furthermore, the applicant submitted disclosure teaches that when a host needs the main data an ATAPI (see element 118) reads the main data in the data buffer. The applicant's submitted prior art did not **explicitly** teach PI/PO syndrome generators and transmitting PI syndrome to a data room and reading out PO syndrome. **However**, Iwasa in an analogous art disclose a DVD data decoding processing system (see figure 3, reference number 30) includes a DVD reproducing unit (see element 32) and a buffer memory (see element 34) whereby the DVD reproducing unit includes a demodulating unit (see element 36) coupled to a PI syndrome generating unit (see element 38), an error correcting unit (see element 40), a PI syndrome storing memory (see element 48), a buffer memory (see element 42) having a memory capacity corresponding to a few lines, a PO syndrome generating unit (see element 44), a de-scrambling/EDC calculating part (see element 46), a PO syndrome storing memory (see element 50), an EDC calculation result storing memory (see element 52) and an error correcting part (see element 54), which are coupled as shown. **Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time

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the invention was made to combine (incorporate) the teachings of the applicant's prior art with the PI/PO syndrome generators including the memories (PI and PO syndrome storing memory) for storing and calculating PI and PO syndromes. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because it would be relatively high reliable in operation that results facilitating utilization of flexible and efficient memory configurations.

As per claims **6 and 12**, the admitted prior art in view of Iwasa teach all the subject matter claimed including a demodulator (see fig. 3, element 36) receives data read out from a disk (see element 14) to demodulate the received data and to develop the modulated data (convert codes to symbols) in the buffer memory (see col. 1 lines 44-53).

As per claim **23**, the applicant submitted disclosure teaches that when a host needs the main data an ATAPI (see element 118) reads the main data in the data buffer (see figure 1).

### *Conclusion*

Applicant's amendment necessitated the new grounds of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

6. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.



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136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire Later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Esaw Abraham

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GUY LAMARRE  
PRIMARY EXAMINER